

Erratum: Evidence for dielectric aging due to progressive 180° domain wall pinning in polydomain Pb(Zr_{0.45}Ti_{0.55})O₃ thin films [Phys. Rev. B 79, 054104 (2009)]

Pavel Mokřý, Yongli Wang, Alexander K. Tagantsev, Dragan Damjanovic, Igor Stolichnov, and Nava Setter
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Equations (19)–(21) were actually derived in the paper for the case of the dc field dependence of the differential permittivity. The relations for the ac field amplitude dependence of the average (mean) permittivity addressed in the experimental part of the paper differs from these by a factor 1/4 in Eq. (21). Specifically, Eq. (21) should read

$$b(r,a) \approx \left(\frac{1}{4}\right) \frac{518.4r^4 \varepsilon_0^2 \varepsilon_c^3}{aa_w^3 P_0^2}. \quad (1)$$

This implies modifications of Eqs. (22) and (26), (23), and (28) and (34c) which should read:

$$b \approx \frac{8.1 \varepsilon_0^2 \varepsilon_c}{P_0^2} \left(\frac{a}{a_w}\right) \varepsilon_w^2 \approx \frac{8.1 \varepsilon_0^2 \varepsilon_c}{P_0^2} \left(\frac{a}{a_w}\right) (\varepsilon_L - \varepsilon_c)^2 \quad (2)$$

$$r(t) = \frac{0.175 a_w P_0}{\varepsilon_0 \varepsilon_c} \sqrt{\frac{b(t)}{\varepsilon_w(t)}}, \quad (3)$$

$$K = \sqrt{\frac{8.1 \varepsilon_0^2 \varepsilon_c}{P_0^2} \left(\frac{a}{a_w}\right)}, \quad (4)$$

respectively. All remaining formulas remain valid.

As a result there will be a slight change in the microstructural parameters of the domain pattern a/a_w , a , and r of PZT determined from the experimental data. Their corrected values are $a/a_w = 12 \times 10^3$, $a = 5.9 \mu\text{m}$, and the value of parameter r decreased in the aging experiment from 33 nm to 29 nm. According to the change of the parameter r (i.e. average distance between adjacent pinning centers), the estimated molar concentration of crystal lattice impurities also needs to be modified to 0.03%. All qualitative results and the applicability conditions of the model remain valid.